

FIGURE 1A
a) Level 1



FIGURE 1B
b) Level 2

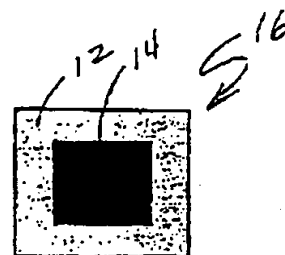


FIGURE 1C
c) Levels 1+2 "aligned"



a) Level 1



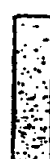
20

22



b) Level 2

FIGURE 2



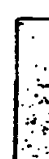
c) Levels 1 + 2 "aligned"

FIGURE 2A



d) Levels 1+2 "misaligned"

FIGURE 2B



24

26

FOST90" 920F8860

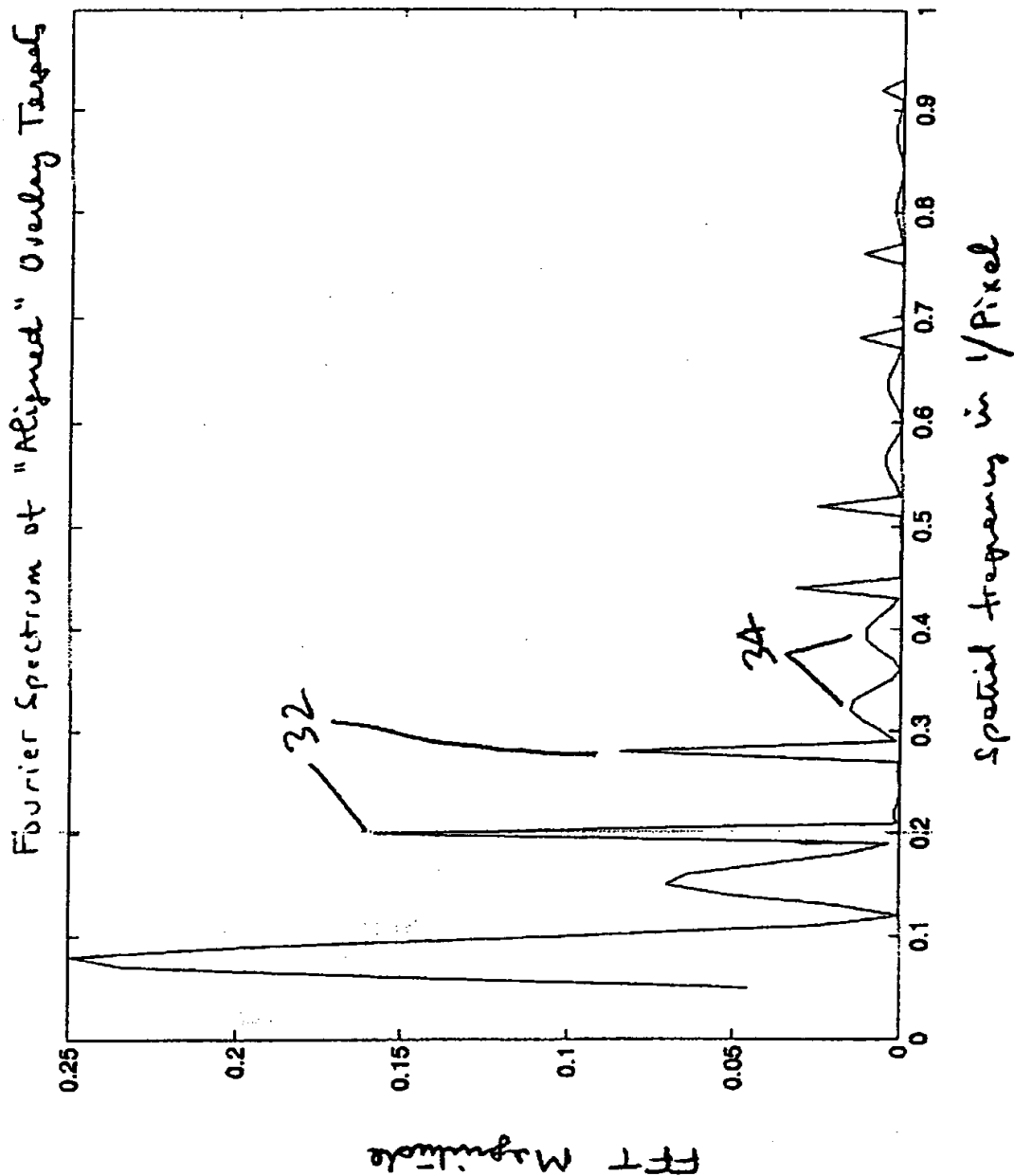
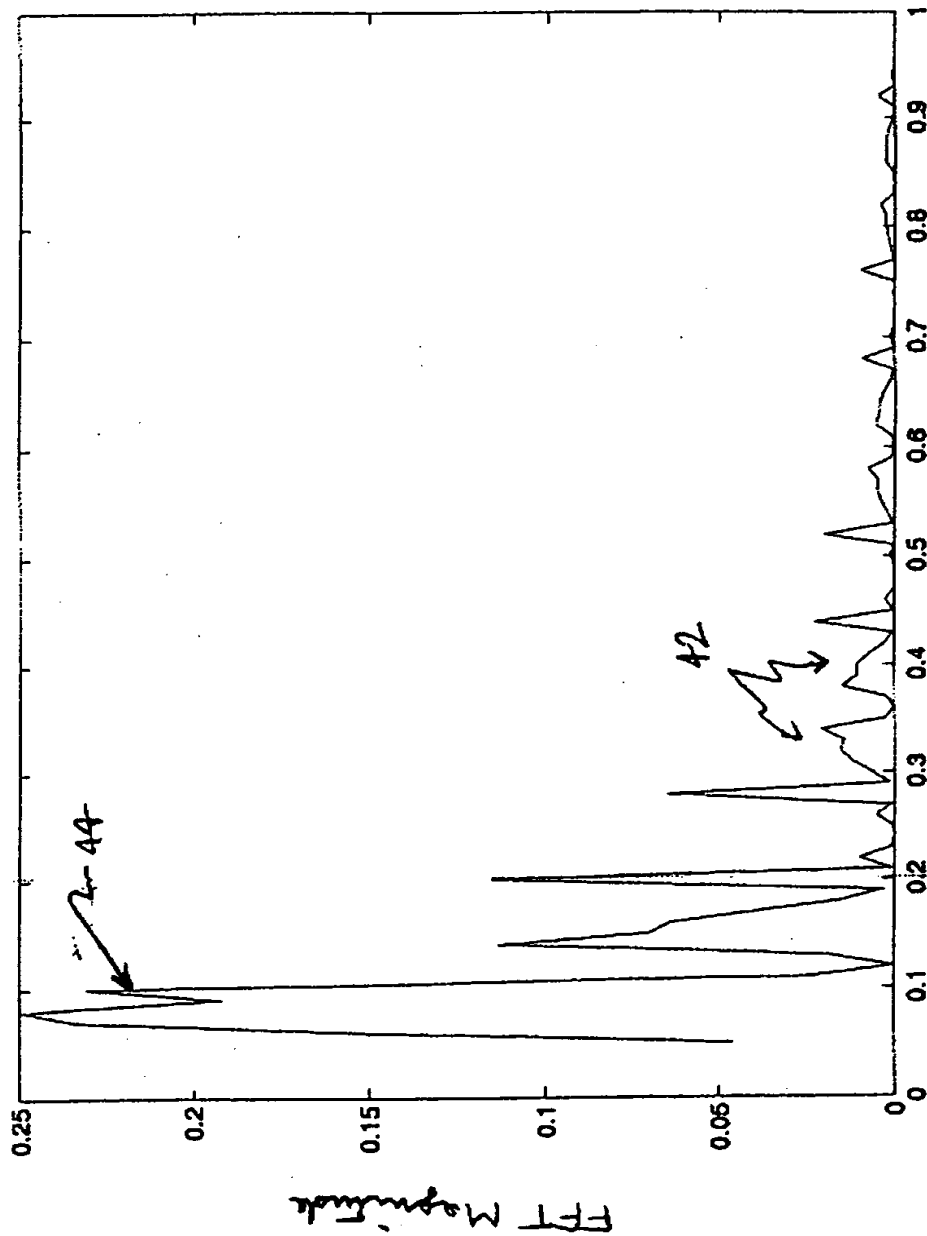


FIG. 3

FOST 90" 92078860

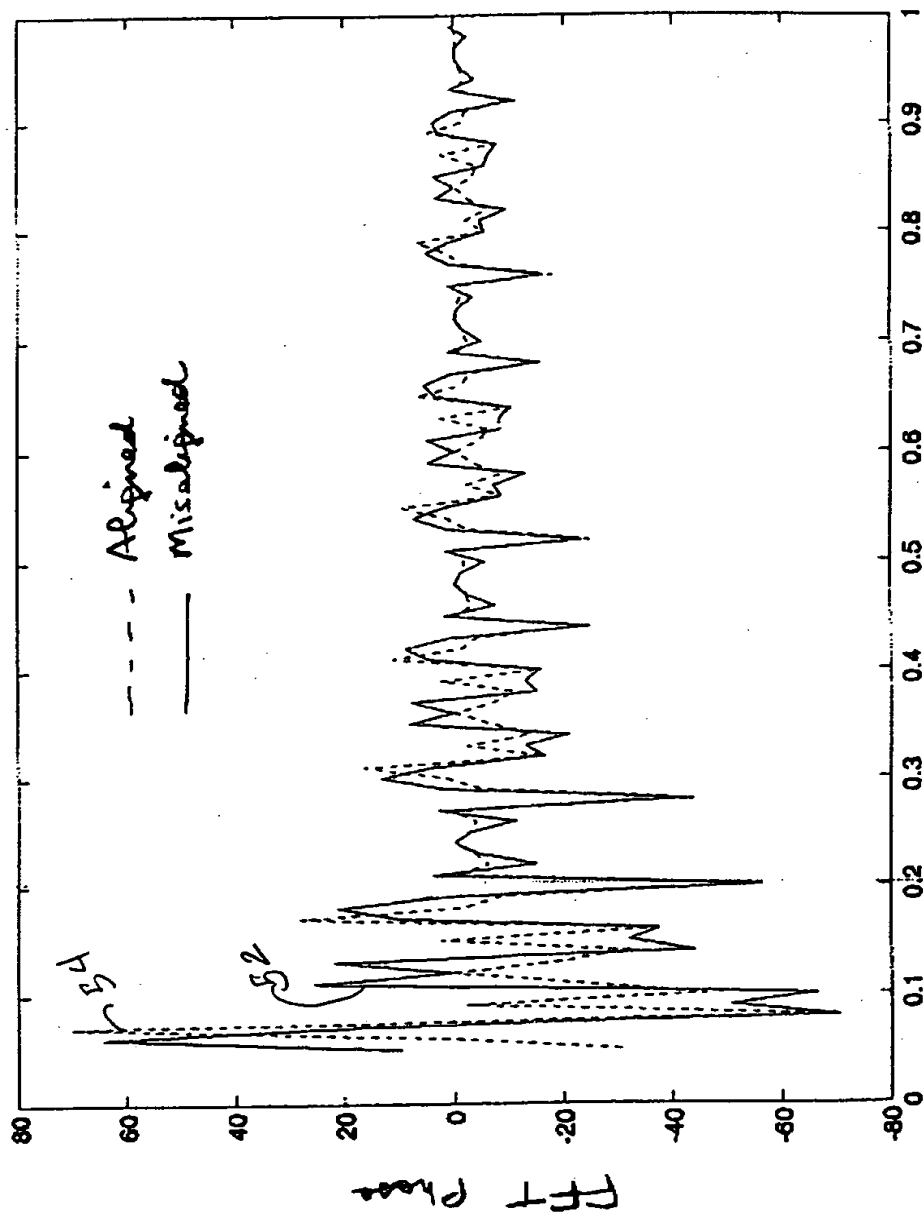
Fourier Spectrum of "Misaligned" Overlay Targets



Spatial frequency in 1/Pixel

Fig. 4

Fourier Spectrum of "Aligned" and "Misaligned" Overlay Targets



Spatial Frequency in 1/pixel

FIG. 5

FIG. 6 SCHEMATIC OF MEASUREMENT APPARATUS

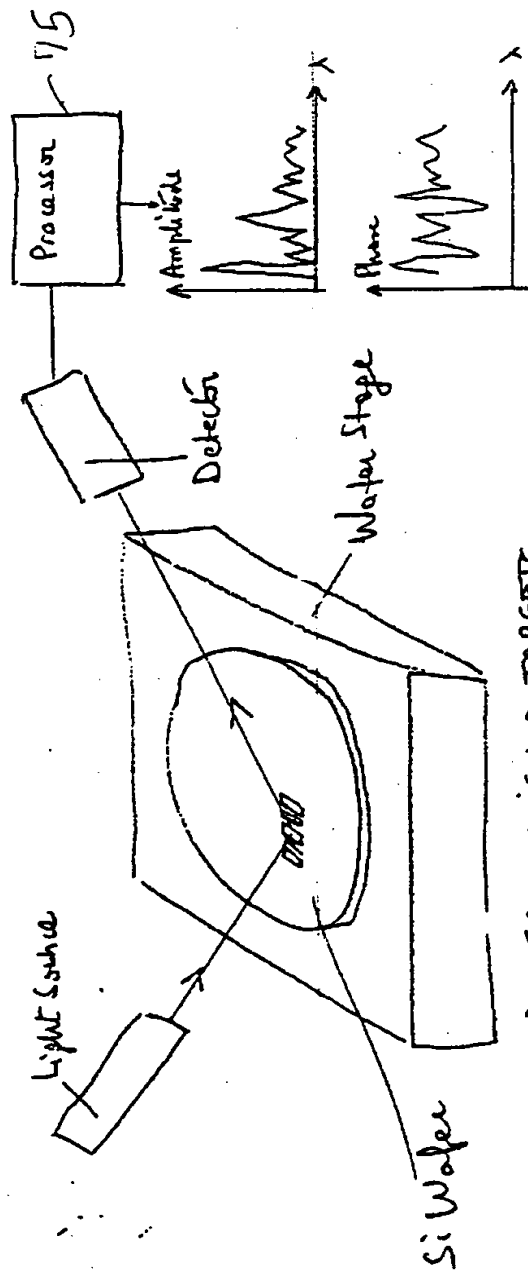


FIG. 6A : ALIGNED TARGET

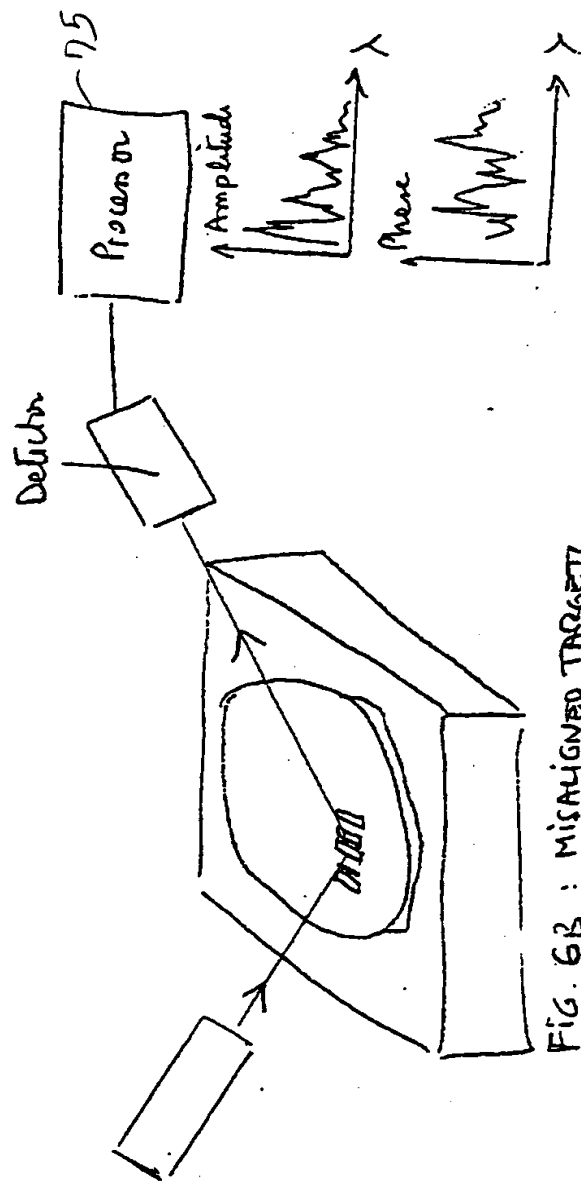
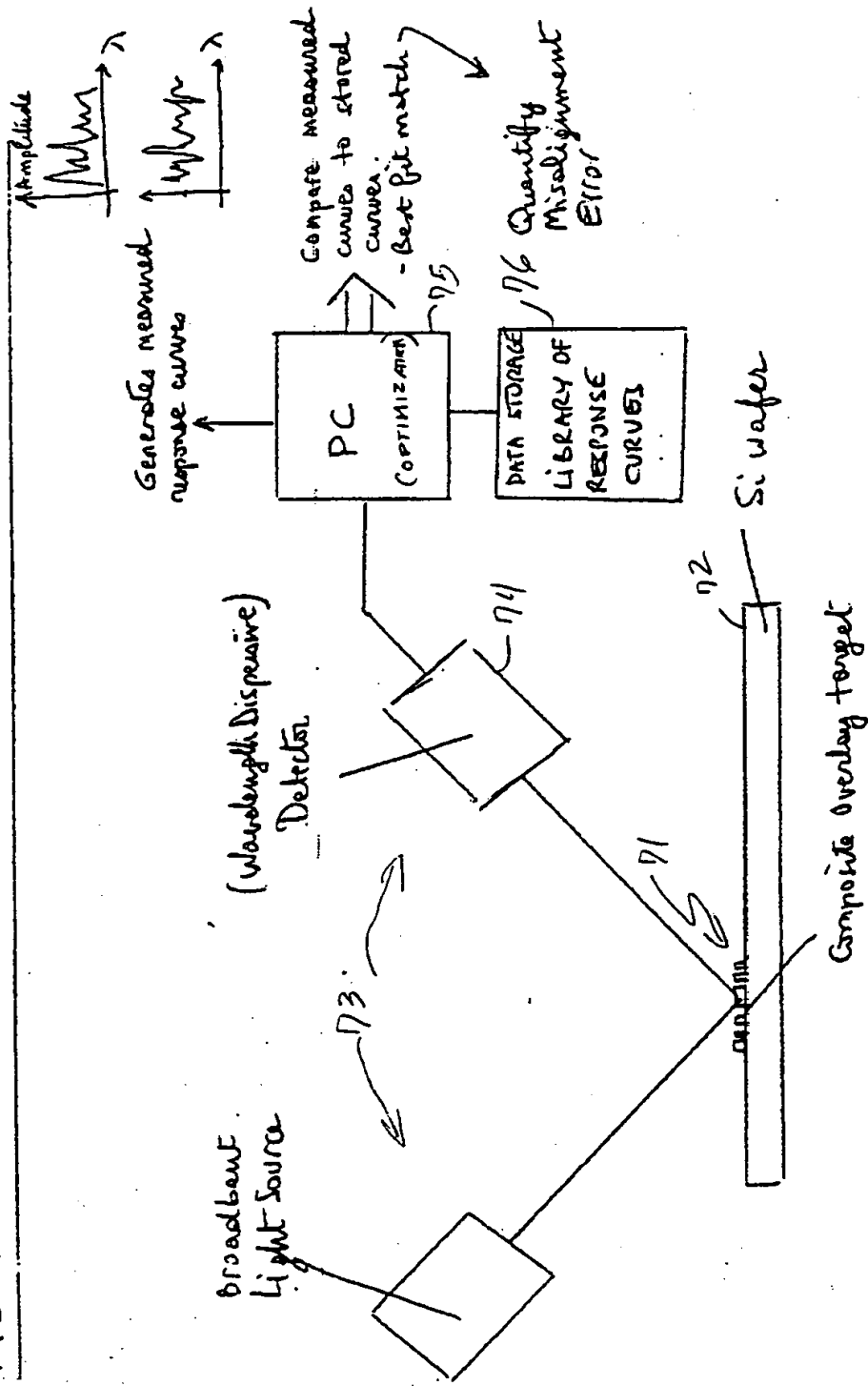


FIG. 6B : MISALIGNED TARGET

FIG. 7 PROCESS FLOW CHART FOR MEASURING OVERLAY ERROR



Applicability to Future Technology

	Feature in 1997, 250nm	Feature in 2006, 100nm
CD	250nm	100nm
CD _{3σ}	230, 250, 270nm	93, 100, 107nm
thickness	800nm	400nm

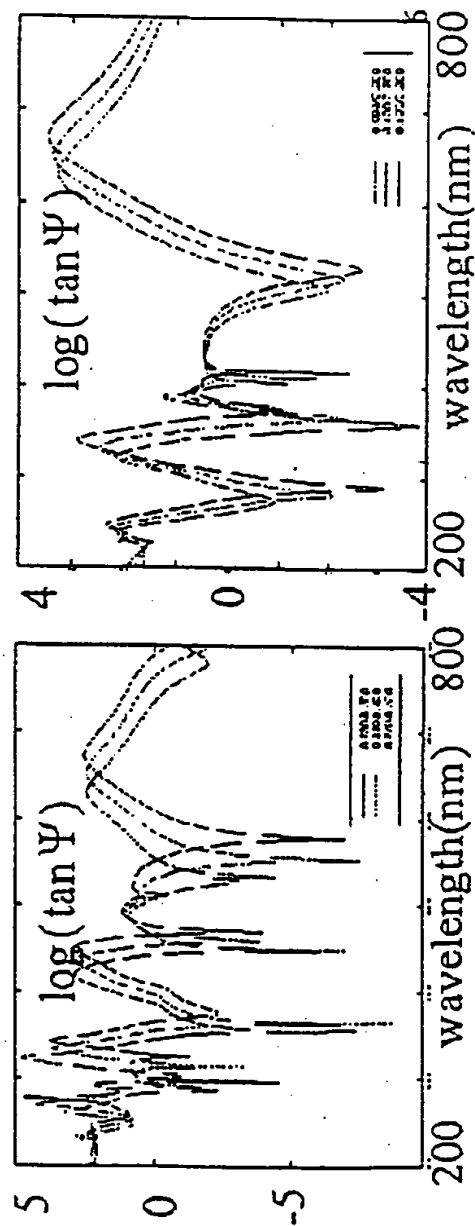


FIGURE 8